GALIKEYEV, Kh.L.

Paraagglutinating strains of Escherichia coli isolated from different animals; author's abstract. Zhur.mikrobiol.epid. i immun. 28 no.5:98 My '57. (MLRA 10:7)

1. Iz Kishinevskogo meditsinskogo instituta.
(ESCHERICHIA COLI)

GALIKEYEV, KH. L.; MITYAYEVA, I.L.

Bactericidal effect of certain tree leaves growing in southern Russia.
Gig. i san. 23 no.12:76-77 D '58. (MIRA 12:1)
(LEAVES) (BACTERICIDES)

62563-65

ACCESSION NR: AP5015002 UR/0240/65/000/006/0093/0094

AUTHOR: Galikeyev, Kh. L.

TITLE: Investigation of allergenic properties of fungi in room dust

SOURCE: Gigiyena i sanitariya, no. 6, 1965, 93-94

TOPIC TAGS: microspore, air pollution, fungus, allergy

ABSTRACT: Suspensions of 100 dust samples from residential buildings, classrooms, and movie theaters were cultivated in Sabouraud's medium at 22° for 10 days to determine the number of colonies and the number of spores per 1 g of dust, and to identify fungi species. Spores of the following fungi species were found: Cladosporium, Penicillium, Aspergillus, Mucorales, Candida and Alternaria. The allergenic properties of these fungi were investigated in 20 rabbits. First, the animals were sensitized with subcutaneous injections of different dust samples suspended in a physiological solution (1:10) and administered every 4 days in a volume of 0.1-0.3 ml for a 25 day period. Then the animals were subjected to skin tests in which allergens, prepared from the isolated dust fungi, were injected intracutaneously in the form of a sterile filtrate

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L 62863-65

ACCESSION NR: AP5015002

(0.1 ml). Seven tests with different allergens were staged on each animal to determine the number of positive reactions. A skin reaction appearing within 24 hrs in the form of reddening and an infiltrate 1.5 cm or more in diameter was considered positive. The highest number of positive reactions was produced by the allergens of Cladosporium (10), Penicillium (11), and Aspergillus (5). During the winter the highest number of fungi spores per 1 g of dust was found in movie theaters (500,000) compared to 300,000 for household dust, 150,000 for classroom dust, and 200,000 for street dust. During the summer the highest number of fungi spores per 1 g of dust was also found in movie theaters (1,000,000) compared to 800,000 for household dust, 100,000 for classroom dust, and over 1,000,000 for street dust. Orig. art. has: 2 tables.

ASSOCIATION: Novokuznetskiy institut usovershenstvovaniya vrachey, Kuzbass (Novokuznetskiy Institute for the Advancement of Physicians)

SUBMITTED: 05Feb64 ENCL: 00 SUB CODE: LS

NR REF SOV: 002 OTHER: 003

Card 2/2dm

GALIKEYEV, Kh.I.

Biochemical activity of the extracts from nonpathogenic fungi, isolated from air. Mikrobiologiia 34 no.4 727-729 Jl-Ag '65. (MIRA 18:10)

1. Novokuznetskiy institut usovershenstvovaniya vrachey.

L 2160-66

ACCESSION NR: AP5023677

UR/0219/65/060/009/0078/0080
616-022.822.8-032 : 611.2]-092.9 +
616-056.3-02 : 582.28]-032 : 611.2

15
B

AUTHOR: Galikeyev, Kh. L.

TITLE: Experimental induction of an aerogenic fungus allergy

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 60, no. 9, 1965, 78-80

TOPIC TAGS: allergy, fungus

ABSTRACT: After sensitization of a group of 20 guinea pigs with an extract of spores from the fungus *Cladosporium* mixed with streptococcal hyaluronidase, 12 showed a positive reaction to homologous fungi - restlessness, scratching, and expiratory dyspnea; lung changes included muscular spasm in the bronchi and infiltration of plasmocytes and histiocytes in the peribronchial connective tissue. When a second group of 20 guinea pigs were sensitized with an extract of spores without streptococcal hyaluronidase, only 5 had a positive reaction, indicating that the enzyme increased the permeability of the mucosa of the respiratory tract. In a third

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L 2160-66

ACCESSION NR: AP5023677

group of 20 animals that received the spores orally (twice at 5-minute intervals) and were then chilled, 3 reacted positively; these animals were evidently sensitized by penetration of the allergen into the gastrointestinal tract. None of 20 guinea pigs in a fourth group sensitized with 20% horse serum reacted to the fungus allergen. Skin tests were positive in 12 of the animals sensitized with the fungus extract mixed with streptococcal hyaluronidase and in 10 of the animals sensitized with the fungus extract alone. Keratoconjunctival tests were positive in 17 animals in the first group and in 14 animals in the second group. The author concludes that it is possible to induce an aerogenic fungus allergy in guinea pigs by sensitization with an extract from the spores of saprophytic fungi mixed with streptococcal hyaluronidase followed by inhalation of the spores of homologous fungi. Orig. art. has: 1 table.

ASSOCIATION: Kafedra mikrobiologii, Novokuznetskogo instituta usovershenstvovaniya vrachey (Department of Microbiology, Novokuznetsk Institute of Postgraduate Medicine)

SUBMITTED: 22Apr64 ENCL: 00 SUB CODE: LS

NO REF SOV: 004 OTHER: 003

Card 2/2

ARTAMONOV, Ye.; SHTEYNBERG, Ya.; GALILEYEV, M.

Strength calculation of circular culvert sections. Avt. dor. no.10:24-25 O '64. (MIRA 17:12)

USSR/General Problems of Pathology - Tumors. Experimental Therapy. U.

Abs Jour : Ref Zhur - Biol., No 19, 1958, 89598

Author : Galikeyeva

Inst :

Title : Treatment of Capillary Angiomas with Radioactive Phosphorus.

Orig Pub : V. sb. Primeneniye radioaktivnogo fosfora dlya lecheniya kozhnykh zabolevaniy M., Medgiz, 1955, 106-107.

Abstract : Twenty seven patients with flat capillary angiomas were treated with radioactive P. Of these, 16 received one course of treatment, 8 - 2 courses, 3 - 3 courses. Within 1-2 weeks, manifestations of dry epidermatitis developed in 15 patients, and moist dermatitis in 12, particularly after treatment with doses of 3500 and 4000 r. P^{32} therapy was effective in the majority of patients; the capillary angioma disappeared at times after the first

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USSR/General Problems of Pathology - Tumors. Experimental Therapy. U.

Abs Jour : Ref Zhur - Biol., No 19, 1958, 89598

course of treatment; best results were observed in those associated with the development of moist dermatitis.

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11(0) PHASE I BOOK EXPLOITATION SOV/1265

Kamyshev, Sevast'yan Filippovich, Galikhin, Viktor Dmitriyevich, Larin Vasiliy Il'ich, Mikhaylov, Leonid Leonidovich, Filonova, Lidiya Ivanovna, Yasnits, Mikhail Grigor'yevich, and Kvochkin, Fedor Abramovich

Groznenskaya neftyanaya promyshlennost' (The Grozny Petroleum Industry) Moscow, Gostoptekhizdat, 1957. 57 p. 1,500 copies printed.

Executive Ed.: Lozbyakova, Ye. S.; Tech. Ed.: Polosina, A.S.

PURPOSE: The book is intended for engineers, technicians and workers in the petroleum industry.

COVERAGE: The status of the Groznyy petroleum industry before the Revolution and the achievements in the recovery and refining of petroleum during the 40 years after the Revolution are discussed. New oil fields, petroleum installations and modern techniques and procedures introduced in the Groznyy petroleum industry are described. No facilities are mentioned. No references are given.

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11(0) SOV/1265

The Groznyy Petroleum Industry

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The Groznyy Petroleum Industry

AVAILABLE: Library of Congress

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GALIKOV, V.A.; SITNIKOV, V.L.

Techniques and work methods of flame cleaners E.F. Abrosimova and D.P. Semikhatova. Metallurg 2 no.6:35-36 Je '57. (MLRA 10:6)

1. Nachal'nik issledovatel'skoy laboratorii organizatsii proizvodstva i truda (for Galkov). 2. Rukovoditel' prokatnoy gruppy laboratorii (for Sitnikov). 3. Zavod "Krasnyy Oktyabr'".
(Metals--Cleaning)

GALIKOWSKA, Wieslawa

Materials on the knowledge of vascular plants from the vicinity of the town of Bytow. Biologia Poznan no.5:103-114 '64.

1. Department of Plant Taxonomy and Geograpy of the A.Mickiewicz University, Poznan.

GALIKOWSKI, R.

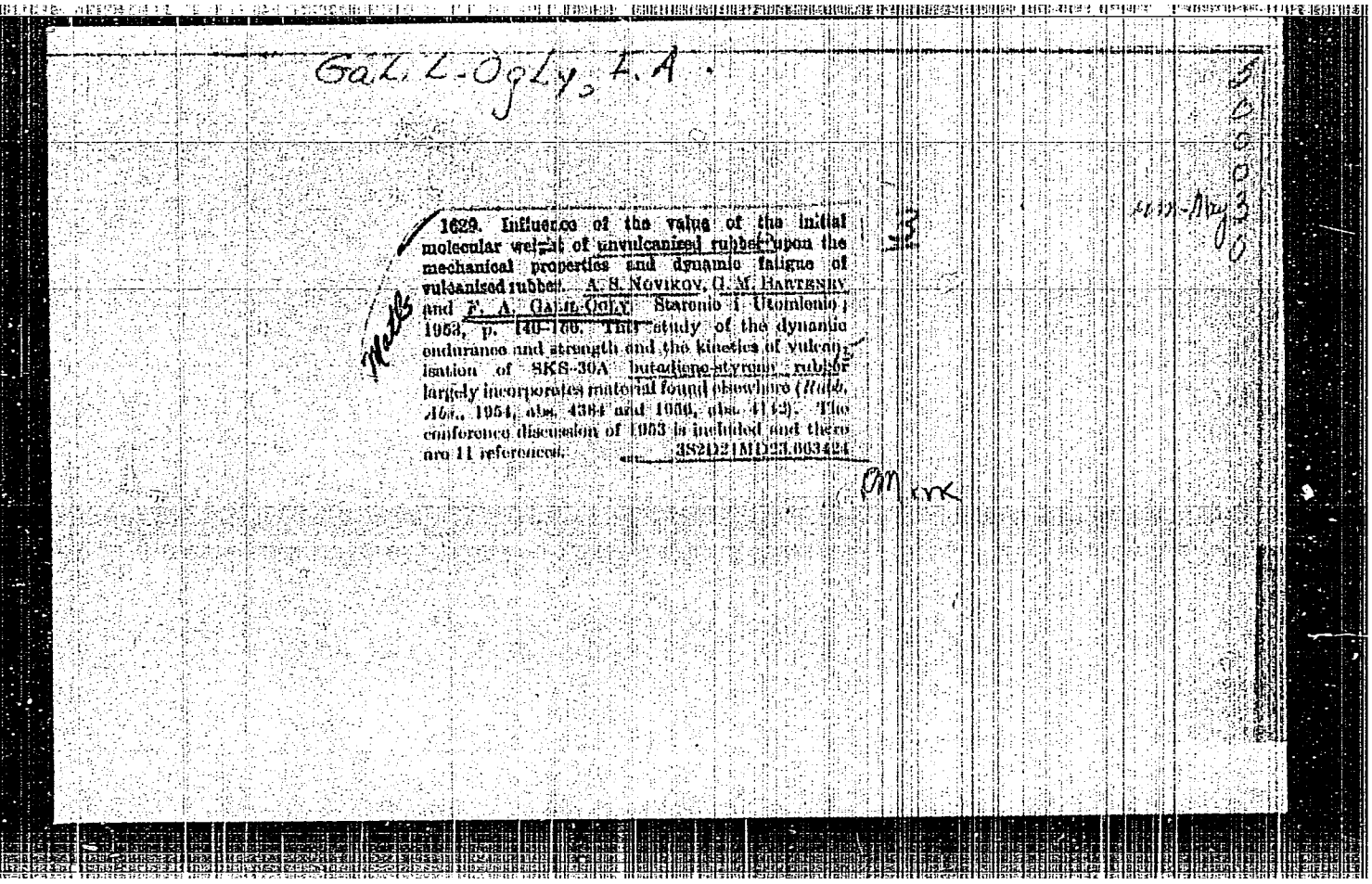
Analysis of the working conditions of ball-pinned bearings used in aircraft instruments. p. 52. (TECHNIKA LOTNICZA, Warszawa, Vol. 10, No. 2, Mar./Apr. 1955)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, June 1955, Uncl.

GALIL-OGLY, F. A.

1839. Mechanism and laws of dynamic fatigue of vulcanised rubbers. G. M. BARTENEV and F. A. GALIL-OGLY. Staremie i Utomlenie', 1953, 7, 118–29. An investigation was carried out from the physical viewpoint into the process of dynamic fatigue of vulcanised rubbers. This process is analogous to the static fatigue of vulcanised rubbers and to the dynamic fatigue of metals, which is shown not only by the statistical character of the dynamic strength (by the scatter of the experimental data, the dependence of the dynamic strength upon the geometrical shape of the test-piece) but also by the identical empirical dependences of the static and dynamic fatigue of vulcanised rubber. The real distinction between the dynamic fatigue of vulcanised rubber and metals is that the former depends very largely on chemical processes in the rubber which accelerate the destruction under repeated deformation. The relative role of the chemical processes depends on the test conditions and the properties of the rubber. There are 7 references, and the discussion is reported.

(U 1239 D)



Gal. L-Ogly, F. A.

1629. Influence of the value of the initial molecular weight of unvulcanized rubber upon the mechanical properties and dynamic fatigue of vulcanized rubber. A. S. Novikov, G. M. Bartenev, and F. A. Gal'n-Ogly. Stareniie i Utomlenie, 1953, p. 140–160. This study of the dynamic endurance and strength and the kinetics of vulcanisation of SKS-30A butadiene-styrene rubber largely incorporates material found elsewhere (*Rubb. Abs.*, 1954, abs. 4384 and 1956, abs. 4162). The conference discussion of 1953 is included and there are 11 references.

GALIL-OGLY, M. A.

Dissertation: "Investigation of Dynamic Fatigue of Rubber." Cand Chem Sci, Moscow Inst of Fine Chemical Technology imeni M. V. Lomonosov, 10 May 54. Vechernyaya Moskva, Moscow, 2 May 54.

SO: SUM 284, 26 Nov 1954

GALIL-OGLY, F.A.

6

Effect of structurizing agents on the plasticization and vulcanization of butadiene-styrene rubber. A. S. Novikov and F. A. Galil-Ogly (Sci. Research Inst. Rubber Ind., Moscow). Kauch. i Rez. 16, 126–31(1954).—Addn. of 0.3–1% of *p*-MeOC$_6$H$_4$NH$_2$ (I) or *p*-PhNHC$_6$H$_4$NH$_2$Ph (II) to butadiene-styrene rubber SKS-30A (III) caused the viscosity of III solns. in PhMe to increase (rather than decrease) on heating at 80° and retarded the decrease of hardness of III on heating under pressure at 130°; the rate of mech. plasticization and the induction period of oxidation of III were not affected by I and II. The solv. of III was not affected by I or II alone, but was lowered by I + mercaptobenzothiazole (IV) or II + IV. Mixts. of I or II with (PhNH)$_2$C:NH did not depress the solv. of III. Addn. of 1% of I or II accelerated the vulcanization of III and raised the tensile strength, modulus of elasticity, and rebound of III vulcanizates. The rate of fatigue of III vulcanizates during periodic extension and contraction was independent of the presence of I. Presumably, I and II react with the oxidized regions of III.

J. J. Bikerman

GALIL-OGLY, F. A.

The effect of molecular weight of rubber on the kinetics of vulcanization and formation of space lattice. A. S. Novikov, G. M. Bartenev, and F. A. Galil-Ogly. *Doklady Akad. Nauk S.S.S.R.* 94, 253-6(1954).—Expts. show that the rate of vulcanization at the various stages of the process is not affected by the mol. wt. of the starting material (styrene-butadiene rubber fractions with av. mol. wt. from 100,000 to 1,170,000) as shown by bound S detd. periodically during vulcanization. The dependence between the amt. of reacted S necessary for the initial formation of a 3-dimensional space lattice and the reciprocal of mol. wt. is linear. In vulcanization of rubber with mol. wt. under 1,000,000, there is an initial cross-linking of chains into larger aggregates, and only after achievement of this "crit." mol. wt. does the process lead to a continuous space lattice of the vulcanizate, so that the S utilized in the "growing" process is not utilized for vulcanization cross-linking. The rate of lattice formation, after the addn. of an amt. of S which is detd. by the original mol. wt., does not depend on the magnitude of the original mol. wt. The results are shown graphically. The following amts. of S (in %) are necessary for the initial formation of the space lattice for various mol. wt. fractions: 0.18 for 700,000; 0.31 for 500,000; 1.2 for 140,000; and 1.8 for 100,000. In early stages of vulcanization the ratio of the no. of unions among the chains to the amt. of bound S is const., regardless of mol. wt.

G. M. Kosolapoff

SOV/124-57-5-6197

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 167 (USSR)

AUTHORS: Bartenev, G. M., Galil-Ogly, F. A.

TITLE: Mechanism and Patterns of the Fatigue Induced in Rubber by Dynamic Loads (Mekhanizm i zakonomernosti dinamicheskoy ustalosti rezin)

PERIODICAL: V sb.: Stareniye i utomleniye kauchukov i rezin i povysheniye ikh stoykosti. Leningrad, Goskhimizdat, 1955, pp 119-129

ABSTRACT: A study was made of fatigue processes induced by dynamic loads in specimens of industrial rubber made from SKS-30 India rubber. The specimens were tested in two ways: 1) some were subjected to loads of known intensity, and 2) others were subjected to loads that stretched them to their respective limits of extensibility. The authors stress the resemblance which they observed between the fatigue processes that resulted and: (a) The fatigue behavior of rubber subjected to long-term static loads, and (b) the fatigue behavior of metals subjected to repeated loadings. They point out that the strength of rubber subjected to repeated loadings is largely dependent on the chemical processes within the rubber which are induced by such loadings and which occur concurrently with them. The nature and course of such

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chemical processes, in turn, depend on the prevailing conditions of load application and on the specific properties of the rubber in question.

L. A. Vishnitskaya

GALIL-OGLY, F. A.

USSR/Chemical Technology. Chemical Products and Their Application -- Crude rubber, natural and synthetic. Vulcanized rubber, I-21

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6023

Author: Novikov, A. S., Bartenev, G. M., Galil-Ogly, F. A.

Institution: None

Title: Effect of Magnitude of Initial Molecular Weight of Rubber on Mechanical Properties and Dynamic Fatigue of Vulcanizates

Original Publication: Sb. Stareniye i utomleniye kauchukov i rezin i povysheniye ikh stoykosti. L., Goskhimizdat, 1955, 140-156

Abstract: A study was made of vulcanizates prepared from different fractions of SKS-30A of molecular weight 50,000-1,200,000. Mechanical properties were studied using a dynamometer of the Polanyi type, and the fatigue by means of a special apparatus, at constant amplitude of deformation and also with constant terminal load (selecting the residual deformations). Rate of addition of S to rubber does not depend on its molecular weight, although degree of vulcanization, determined on

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USSR/Chemical Technology. Chemical Products and Their Application -- Crude rubber, natural and synthetic. Vulcanized rubber, I-21

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6023

Abstract: the basis of equilibrium modulus, is lower, with all other conditions being equal, in the case of vulcanizates of rubbers of lower molecular weight. This is due to the fact that with low molecular weights the addition of S does not yield immediately a single spatial structure and a portion of the S is added intramolecularly. Stress relaxation in vulcanizates with identical vulcanizing group occurs more rapidly in the case of a rubber of low molecular weight. With an equal concentration of cross linkages the mobility of the chains is reduced in the case of low molecular fractions. Strength, both tensile and of fatigue resistance, increases with molecular weight only as far as about 300,000, remaining practically constant beyond this value. On mixing of high molecular fractions with low molecular there is observed a sharp decrease in strength, even though the average molecular weight value may be sufficiently high under such conditions.

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GALIL-OGLY, F. A.

USSR/Chemistry - Rubber

FD-1801

Card 1/1 Pub 50-5/19

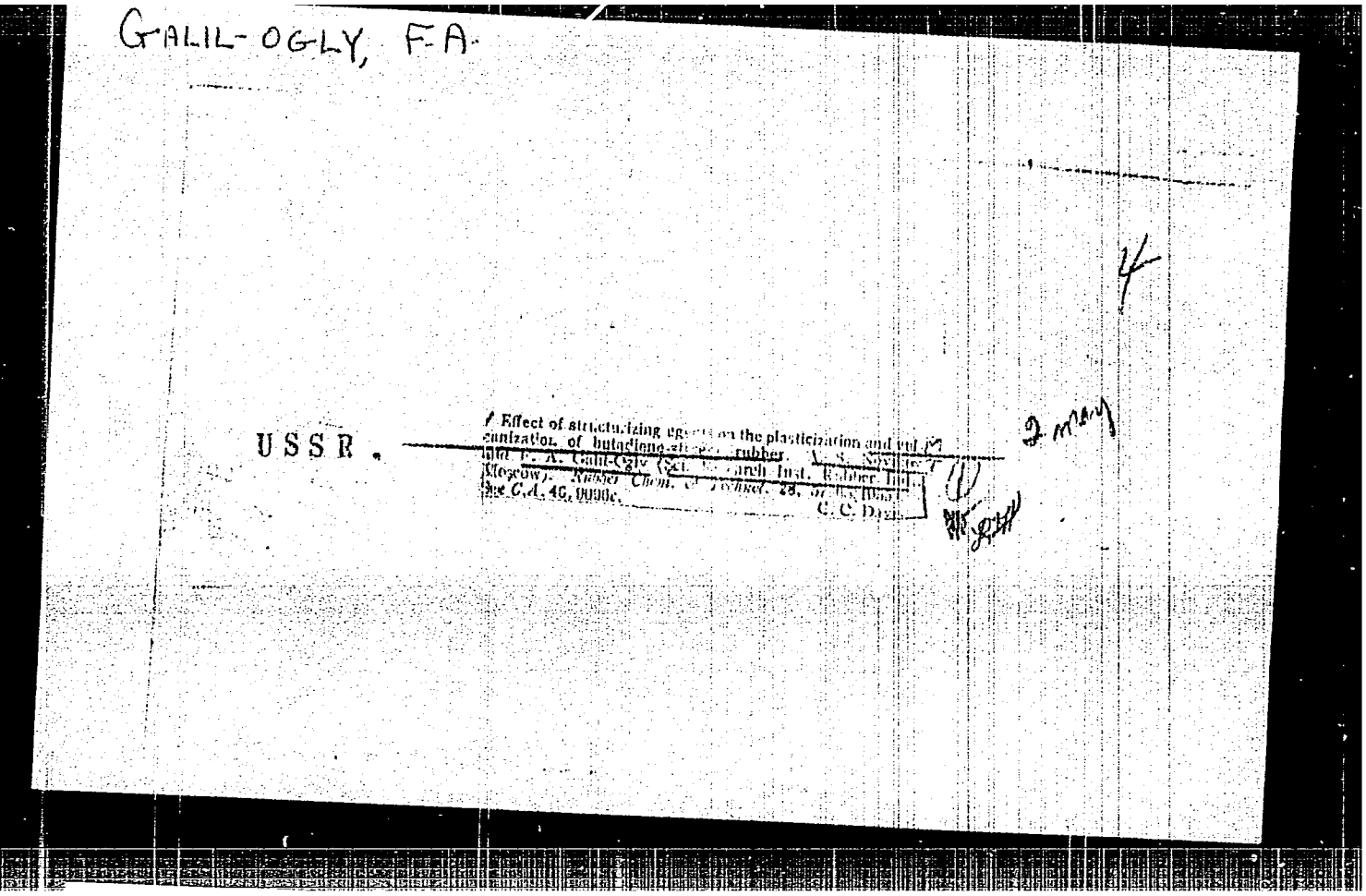
Author : Kaluzhenina, K. F., Galil-Ogly, F. A.

Title : Production of colored rubber with the application of domestic dyestuffs

Periodical : Khim. prom., No 2, 79-82 (15-18), Mar 1955

Abstract : Thirty dyestuffs have been tested in regard to their suitability for the preparation of pigments to be used in coloring rubber. Nine have been selected as suitable. Procedures for the production of colored rubbers and white rubber are described. The effects of fillers, vulcanization accelerators, antioxidants, and other admixtures on the color are discussed. Eleven references, 3 USSR, all since 1940. Two tables.

Institution: Scientific Research Institute of the Rubber Industry



GALIL-OGLY, F.A.

4

USSR.

Effect of structurizing agents on the plasticization and vulcanization of butadiene-styrene rubber.

F. A. Galil-Ogly (Sci. Research Inst. Rubber Ind., Moscow). *Rubber Chem. & Technol.* 28, Sr. No. [illegible]; *See C.A.* 46, 0000c.

C.C. Dept.

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GALIL-OGLY, F. A.

USSR/ Chemistry - Rubber fatigue

Card 1/1 Pub. 22-20/54

Authors : Bartenev, G. M., and Galil-Ogly, F. A.

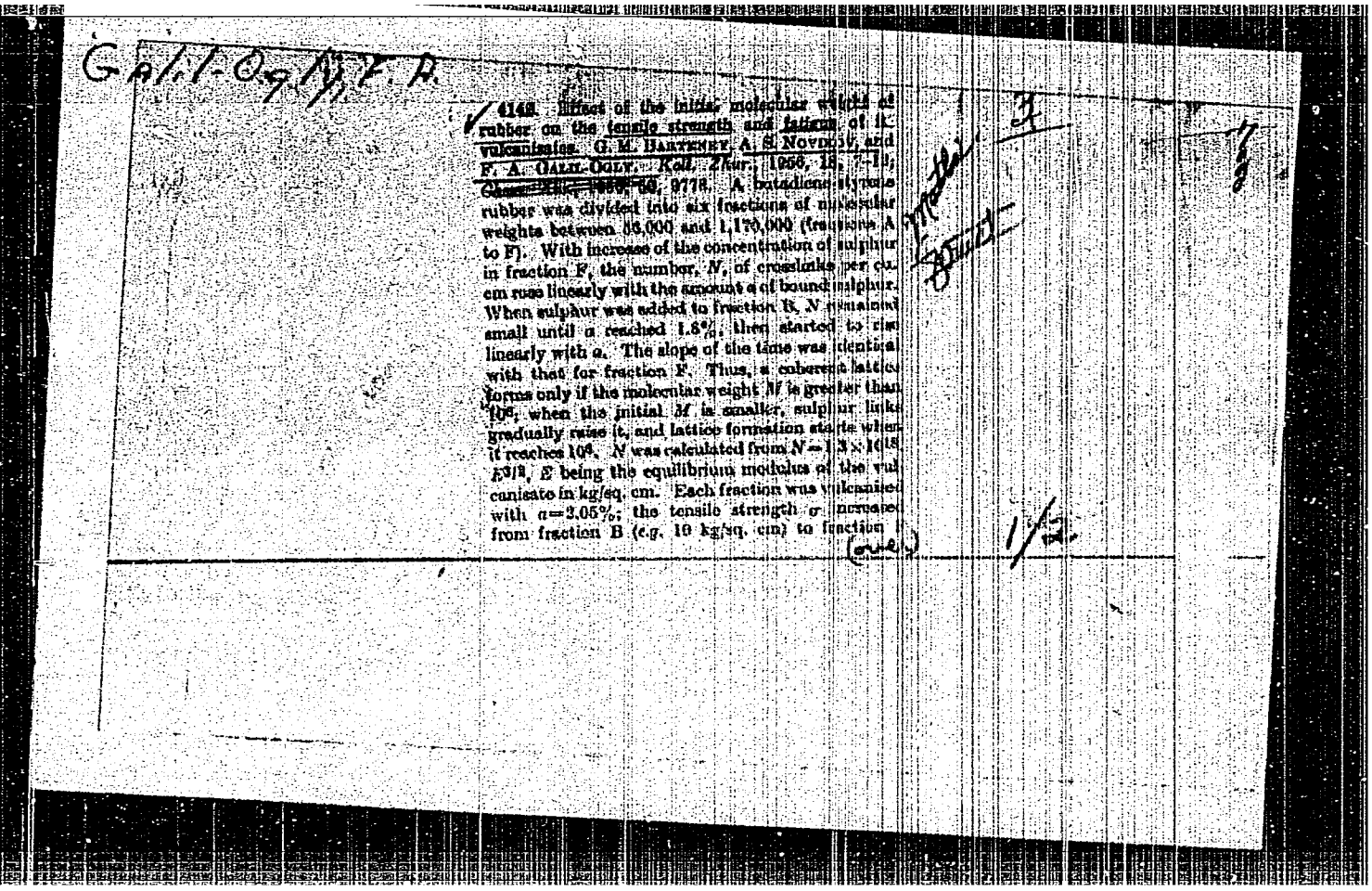
Title : Dynamic fatigue and the mechanism of the destruction of rubber during repeated deformations

Periodical : Dok. AN SSSR, 100/3, 477-480, Jan 21, 1955

Abstract : Experiments showed that dynamic fatigue of rubber results from chemical oxidizing processes and the destruction of rubber during repeated deformations occurs through the breaking away of the rubber chains under the effect of mechanically activated chemical processes. The physical factors affecting the dynamic fatigue of rubber are listed. The relation between the fatigue and strength characteristics of rubber is explained. The basic laws governing the dynamic fatigue of rubber and the mechanism of destruction during repeated elongations are described. Eight references: 6 USSR and 2 English (1936-1953). Graphs, illustraions.

Institution : Scientific Research Institute of Rubber Industry

Presented by : Academician V. A. Kargin, May 22, 1954



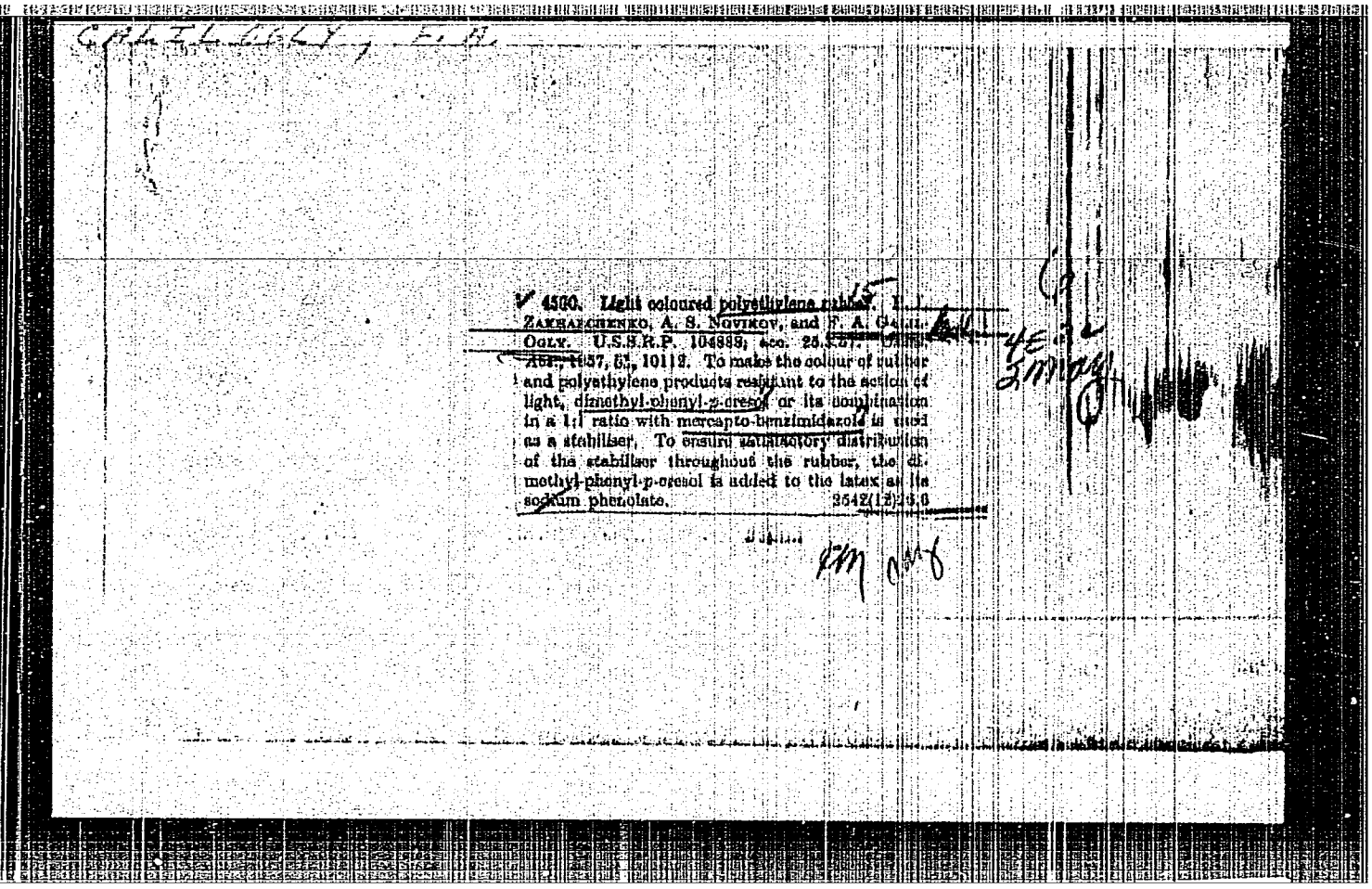
Gal.1-Oq-M,F.R.

4148. Effect of the initial molecular weight of rubber on the tensile strength and lattice of its vulcanisates. G. M. BARTENEV, A. S. NOVIKOV, and F. A. GALIL-OGLY. Kol. Zhur., 1956, 18, 7-11; Chem. Abs., 1956, 50, 9778. A butadiene-styrene rubber was divided into six fractions of molecular weights between 55,000 and 1,170,000 (fractions A to F). With increase of the concentration of sulphur in fraction F, the number, N, of crosslinks per c.c. rose linearly with the amount a of bound sulphur. When sulphur was added to fraction B, N remained small until a reached 1.6%, then started to rise linearly with a. The slope of the line was identical with that for fraction F. Thus, a coherent lattice forms only if the molecular weight M is greater than 10^5, when the initial M is smaller, sulphur links gradually raise it, and lattice formation starts when it reaches 10^5. N was calculated from $N = 1.3 \times 10^{18} E^{3/2}$, E being the equilibrium modulus of the vulcanisate in kg/sq. cm. Each fraction was vulcanised with $a = 2.05\%$; the tensile strength σ increased from fraction B (e.g. 10 kg/sq. cm) to fraction [illegible]

BARTENEV, G. M., NOVIKOV, A. S. ...

(e.g. 50 kg/sq. cm); the time to rupture at periodic extensions at a constant maximum deformation decreased from A to F, and this time, t, at a constant maximum load increased from A to F. The effect of M at M less than 500,000 was small. Both σ and t were linear functions of N. When each fraction was vulcanized with enough sulphur to have E=13 kg/sq. cm, the increase of σ with M was slight, and t increased with M at both constant deformation and constant load. Vulcanizates from rubbers of a small M have large residual deformations, since their lattice is less tight.

3S2D2151(1)23.663.24



4500. Light coloured polyethylene rubber. I. ZAKHARCHENKO, A. S. NOVIKOV, and P. A. G... Obzr. U.S.S.R.P. 104888; Acc. 25.5.57. Abst., 1957, 61, 10112. To make the colour of rubber and polyethylene products resistant to the action of light, dimethyl-phenyl-p-cresol or its combination in a 1:1 ratio with mercapto-benzimidazole is used as a stabiliser. To ensure satisfactory distribution of the stabiliser throughout the rubber, the dimethyl-phenyl-p-cresol is added to the latex as its sodium phenolate. 3542(12)23.6

S/138/59/000/07/06/009
82265

15.9210

AUTHORS: Galil-Ogly, F. A., Skuba, I. A., Novikov, A. S.

TITLE: Metal Fluorides - Fillers for Fluorocopolymer Rubbers

PERIODICAL: Kauchuk i Rezina, 1959, No. 7, pp. 31-36

TEXT: The authors discuss the problem of increasing the thermal resistance of rubbers used in machine-building. They point out that this property can be improved by the addition of special thermoresistant fillers to the fluorine-containing rubbers. Attention is drawn to Ref. 4, 5, where information is available on thermoresistant fillers used abroad in the last 3 years, such as sodium, cesium, lithium, calcium zirconates, fluorozirconates, etc. In the present article various metal fluorides were investigated as fillers for fluorocopolymer rubbers. The latter were evaluated according to the thermo-resistant properties of the resultant rubbers, as compared to rubbers filled with powdered silica gel, U-333, used at the present time for the production of rubber peroxides from fluorocopolymers. Lithium, zinc, barium, magnesium, strontium, calcium, and aluminum fluorides were investigated. A description is given of differences in their surface structure. Figure 1 is an electronic microphotograph of the metal fluorides, pointing out the structural difference.

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S/138/59/000/07/06/009
82265

Metal Fluorides - Fillers for Fluorocopolymer Rubbers

Table 2 is a list of the physico-mechanical properties of the rubbers with various fluorine-containing fillers. The investigated metal fluorides occupy the following sequence as to their effect on the thermoresistance of the rubber: Magnesium, calcium, strontium, aluminum, lithium and zinc fluorides. It was found that barium fluoride promotes the process of destruction in the rubber during aging, which is accompanied by a sharp increase in the relative elongation of the rubber. All the metal fluorides were found to have a greater effect on the thermoresistant properties of the rubbers than powdered silica gel. The calcium fluoride yields the most elastic rubber with an increased relative elongation. Calcium fluoride was further investigated as to its initial structure, method of its production and the initial raw material used. It was shown that rubbers, containing calcium fluoride of various initial raw materials are characterized by different strength and thermoresistance. The optimum type of calcium fluoride, as a filler for fluorocopolymers, is the product obtained from the reaction between sodium fluoride, or ammonium fluoride and calcium chloride, or calcium oxide. This product gives a rubber of increased strength and thermoresistant properties. The drying temperature of the calcium fluoride affects the physico-chemical characteristics and properties of the obtained calcium fluoride. Its activity also depends on the type of applied vulcanizing group. In 1958, a

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Metal Fluorides - Fillers for Fluorocopolymer Rubbers 82265

technology for the production of calcium fluoride was developed and its serial production was begun. The following conclusions are drawn: 1) The investigated metal fluorides ensure a higher thermal resistance of the rubber than the U-333, but have less strengthening effect than the latter. 2) The most active metal fluorides are the calcium and magnesium fluorides, their effectiveness depending on their specific surface and particle structure. 3) The activity of the calcium fluoride depends also on the nature of the initial raw material used in its production. 4) Particles of active calcium fluoride are characterized by a corroded surface, 0.01-0.1 micron in size, and a specific surface of 32-27 m^2/g. 5) The activity of the calcium fluoride also depends on the content of the mixture and vulcanization method. There are 5 tables, 3 figures, 6 English references.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber-Manufacturing Industry)

Card 3/3

15(9)

SOV/63-4-1-9/31

AUTHORS: Novikov, A.S., Galil-Ogly, F.A., Candidates of Chemical Sciences

TITLE: Heat-, Oil- and Frost-Resistant Rubbers (Teplo-maslo-morozo-stoykiye reziny)

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 1, pp 63-69 (USSR)

ABSTRACT: Modern machine building and jet aviation needs rubber products for raised temperatures of 120 - 150°C and 400 - 500°C, for low temperatures of -40 to -60°C, and for various aggressive media, like oils, fuels, peroxides, etc. It is not possible to develop a polymer which satisfies all these demands. In every single case the suitable rubber must be chosen. The heat- and oil-resistance is determined by the chemical structure of the rubber. The addition of various ingredients has only a slight effect. The bonds with the highest thermal resistance are of the type C-S-C and C-C. Free sulfur in the vulcanizate has a negative effect on heat-resistance. The polysulfide bond decomposes to bi-radicals during heat aging and has the same effect like sulfur. Unsaturated rubbers should be vulcanized without sulfur by means of thiurams or by radioactive irradia-

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tion [Ref 21]. The presence of active carbon blacks reduces the absorption of oxygen and the oxidation of the polymer at a temperature of 100°C. At 130 - 150°C this inhibiting effect of the carbon black disappears and the structuration processes are accelerated. At these temperatures highly-dispersed mineral fillers, like silicic acid, metal silicates, etc must be employed. The heat-resistance of unsaturated rubbers may be increased by adding aliphatic mercaptans to the double bonds of the rubber. Rubbers with high heat-resistance of 200 - 300°C may be obtained only by using rubber-like polymers, e.g. copolymers of acrylic acid with the nitrile of the acrylic acid, silicon rubber, etc. Saturated polymers are vulcanized by heating in the presence of organic peroxides. Their decomposition products can destroy the C-C bond. High-energy radiations [Ref 44, 45] have shown good results in the vulcanization of these rubbers. During irradiation C-C bonds are formed. The resistance of rubbers to oils and solvents is determined by their polarity. It does not depend on the method of vulcanization. If the change of the polarity during vulcanization is considerable, the rubber obtains an increased resistance to oils, fuels, etc. The resistance to solvents may be improved by choosing a filler which is inert to the medium,

but combines with the rubber. Polytetrafluoroethylene is such a filler for polysiloxane rubber. Unsaturated rubbers in an oil medium do not age so fast as in hot air because there is no oxygen. The frost-resistance is determined by the composition and the structure of the rubber. Plastication is the best method for increasing this property. For this purpose esters of the phthalic, adipinic, and sebacic acids are used. The fluorosilicon rubber of the type LS53 reaches a frost-resistance of -60°C, a heat-resistance of 200 - 250°C and a high oil-resistance but its mechanical properties are so low that it can be used only for packings, diaphragms, etc. There are 3 tables and 57 references, 24 of which are Soviet, 32 English and 1 German.

SOV/89-6-5-6/33

21(4)

AUTHORS: Galil-Ogly, F. A., Nikitina, T. S., Dyumayeva, T. N., Novikov, A. S., Kuz'minskiy, A. S.

TITLE: On the Radiation Vulcanization of Fluorine Copolymers (O radiatsionnoy vulkanizatsii ftorsopolimerov)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 5, pp 540-545 (USSR)

ABSTRACT: If rubber-like fluorine copolymers are irradiated, rubber having unsatisfactory physical and mechanical properties is obtained. If various additions are added to these substances before irradiation, rubber having valuable technical properties may be obtained. The rubber-like fluorine copolymer "Kel'-F" is experimentally used as elastomer. Irradiation was carried out with Co^{60}-disks (thickness 0.3 to 1.0 mm) with an activity of 1400 and 21000 gramequivalent Ra. The integral absorbed energy corresponded to 3 to 80.10^6 r. The structural change in the irradiated material was determined from the changed solubility, from the swelling limit in acetone, from the modulus E_∞, and from other physico-mechanical parameters. As additions the following substances are used: Channel black, white soot, furnace carbon black, thermal carbon

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black, and zinc oxide. The experimental results are tabulated and partly shown in form of graphs. The following is worth mentioning in connection with the curves: Dependence of tearing strength, the relative elongation, the modulus E_{∞}, and the swelling limit on the radiation dose; the influence exercised by air and vacuum on swelling and the modulus E_{∞} in the case of various radiation doses; the influence exercised by the addition of carbon black on spatial net formation as a result of irradiation. Dependence of the strength of the rubber on the quantity of carbon black added (irradiation dose 20.10^6 r). The following general conclusions may be drawn from the experiments: The surface activity of the additional substances exercises a decisive influence on the properties of the rubbers. The rubber which contains channel black as an addition possesses the best technical properties after irradiation. It is, above all, more resistant to heat-aging, solubility, and static deformation. The fluorine copolymers of the "Kel'-F"-type tend more towards cross-linking than polytetrafluoroethylene and polytrifluoroethylene chloride. Cross-linking is promoted by the addition of oxygen. There are 9 figures, 1 table, and 10 references, 2 of which are Soviet.

NOVIKOV, A.S.; KARGIN, V.A.; GALIL-OGLY, F.A.

Fluidity of rubbers at high temperatures. Kauch. i rez. 18 no.1:39-42 Ja '59. (MIRA 12:1)

1.Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.
(Rubber, Synthetic--Testing)

NOVIKOV, A.S.; KARPOV, V.L.; GALIL-OGLY, F.A.; SLOVOKHOTOVA, N.A.; DYUMAYEVA, T.N.

Effect of ionizing radiation on the chemical structure of rubber-like fluorine-containing polymers. Vysokom. soed. 2 no.4:485-491 Ap '60. (MIRA 13:11)

1. Fiziko-khimicheskiy institut im.L.Ya.Karpova.
(Polymers--Spectra) (Radiation)

86318

S/190/60/002/012/001/019
B017/B055

21.6100
15.9206 2209

AUTHORS: Novikov, A. S., Karpov, V. L., Galil-Ogly, F. A., Slovokhotova, N. A., Dyumayeva, T. N.

TITLE: The Effect of Metal Oxides on Structural Changes in Fluorinated Rubber Copolymers Caused by Ionizing Radiation and High Temperatures

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 12, pp. 1761-1767

TEXT: The authors studied the effect of metal oxides (CaO, MgO) on the chemical changes in fluorinated rubber copolymers under the influence of ionizing radiation, applying a Co^{60} source with activity 21.000 gram-equivalents and intensity $0.54.10^6$ r/h. The chemical changes in the fluorinated polymers were investigated by infrared spectroscopy in the 4.000 - 1.300 cm^{-1} region on the ИКС-14 (IKS-14) spectrometer. The mechanical properties of irradiated fluorinated polymers with and without a metal oxide content are given in a table. The admixture of small

Card 1/3 (Rubber, Synthetic) (Metallic Oxides) (Polymers, Effect of Radiation on)

The Effect of Metal Oxides on Structural Changes in Fluorinated Rubber Copolymers Caused by Ionizing Radiation and High Temperatures

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B017/B055

quantities of calcium oxide was found to increase polymer strength. The change in strength after irradiation of polymers containing varying amounts of calcium oxide is shown graphically in Fig. 1. The viscosity of methyl-ethyl ketone solutions of the polymers decreases after irradiation. The infrared spectra of fluorinated polymers type СКФ-32 (SKF-32) before and after irradiation, with and without calcium oxide, are shown in Figs. 5,6, and 7. A considerable number of conjugate double bonds of the type -CH=CCl-, and OH and HF_2^- groups were found to form in the presence of metal oxides. Metal oxides prevent the formation of volatile compounds during irradiation, since they react with these compounds. Calcium and magnesium oxide bind volatile compounds which form on heating fluorinated polymers to 200°C under pressure. The infrared spectra of fluorinated polymers before and after heating under pressure to 200°C, with and without admixture of calcium oxide are given in Fig. 8. In the irradiation of fluorinated polymers, the metal oxides act as acceptors for hydrogen-fluoride and hydrogen-chloride compounds and for fluorine, chlorine, and hydrogen. There are 8 figures, 1 table, and 11 references:

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86318

The Effect of Metal Oxides on Structural Changes in Fluorinated Rubber Copolymers Caused by Ionizing Radiation and High Temperatures

S/190/60/002/012/001/019
B017/B055

5 Soviet, 3 US, and 3 British.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry).
Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: May 11, 1960

Card 3/3

15.9450
11.2214

2818
S/190/61/003/010/011/019
B124/B110

AUTHORS: Lyubimov, A. N., Novikov, A. S., Galil-Ogly, F. A., Gribacheva, A. V., Varenik, A. F.

TITLE: Application of nuclear magnetic resonance to studies of rubber-like fluorine-containing polymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 10, 1961, 1511 - 1515

TEXT: The authors determined the temperature dependence of the width of nuclear magnetic resonance bands and the second moment in fluorine-containing rubber-like polymers of different elastic properties. The following copolymers were investigated: trifluoro chloro ethylene and vinylidene fluoride (I); hexafluoro propylene and vinylidene fluoride (II); trifluoro chloro ethylene, vinylidene fluoride, and perfluoro methoxy perfluoro propyl acrylate (III); homopolymer of perfluoro methoxy perfluoro propyl acrylate (IV); and polyhexafluoro pentamethylene adipate (V). A nuclear magnetic resonance spectrometer of the usual type having linear scanning and sinusoidal modulation of the polarization field and autodyne nuclear signal pick-up was used for measurement. The field

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Application of nuclear...

homogeneity determined from the resolution of chemical resonance shifts of F^{19} was 10^{-5} within 0.5 cm^3. For all polymers investigated, the derivatives of the resonance absorption bands of protons and fluorine between -150 and +120°C were recorded. The second moments of the resonance bands of protons and fluorine were calculated by graphic integration, and their temperature dependence was recorded (Fig. 1). Below -110°C, the second moments measured correspond to those of the solid structures (16 - 19.5 $gauss^2$) and decrease with rising temperature, the course for all polymers, except for (V), being identical. The curves obtained show three sections: (1) Constant values of the second moment; (2) slow decrease of these values; and (3) rapid decrease of the second moment. The boundary of the first and the beginning of the second section is for all polymers at -110°C; the end of the second and the beginning of the third section is for (I) and (II) at -20°C, for (III) and (IV) at -40°C, and for (V) at about -60°C. These temperatures correspond to the vitrification points of the respective copolymers which had been determined by Kargin's dynamometer. Above the temperatures mentioned, a mobility of the molecular chain segments appears, whereas

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Application of nuclear...

in polymer (V) the chains, due to the presence of "hinge" OCO-groups, are more mobile than in other polymers and their heat motion sets in almost simultaneously with the beginning of re-orientation of the CH_2 groups.

Besides the rotary motions of the individual groups, also some heat motions of chain segments appear in the molecule chains of the polymers studied. By comparing the experimentally determined and the theoretically calculated second moments of hydrogen and fluorine for the copolymer of vinylidene fluoride and trifluoro chloro ethylene, it was proved that, for the two possible compounds of the monomers $-CF_2-CFCl-$ and $-CH_2-CF_2$, the structure $-CF_2CFClCF_2CH_2-$ is more probable than the structure $-CF_2CFClCH_2CF_2-$. A chemical resonance shift of fluorine from (II) caused by the groups CF_2 and CF_3 was observed at +90°C. A. I. Kitaygorodskiy is thanked for his advice. There are 1 figure and 8 references: 1 Soviet and 7 non-Soviet. The two most important references to English-language publications read as follows: W. P. Slichter, J. Appl. Phys. 26, 1099, 1955; W. P. Slichter, J. Polymer Sci. 106, 178, 1957.

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28182
S/190/61/003/010/011/019
B124/B110

Application of nuclear...

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

SUBMITTED: November 17, 1960

Fig. 1. Change of the second moment for fluorine (a) and hydrogen (б) as dependent on the temperature for the copolymers: (1) vinylidene fluoride with trifluoro chloro ethylene; (2) vinylidene fluoride with hexafluoro propylene; (3) homopolymer of perfluoro methoxy perfluoro propyl acrylate; (4) vinylidene fluoride with trifluoro chloro ethylene and perfluoro methoxy perfluoro propyl acrylate; (5) polyhexafluoro pentamethylene adipate

Legend: (A) temperature, °C; (B) ΔH^2 gauss^2.

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GALIL-OGLY, F. A.

USSR

13

DOGADKIN, B. A., and TARASOVA, Z. N., Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov [1961 position] - "Influence of vulcanisation structures on physical and mechanical properties of vulcanisates" (Session II)

KUZ'MINSKIY, A. S., LYUBCHANSKAYA, L. I., FEL'DSHTEYN, L. S., Scientific Research Institute of Rubber Industry, Moscow [1960 locations] - "Influence of mechanical stresses on the ageing of vulcanised rubbers" (Session VIII)

NOVIKOV, A. S., GILINSKAYA, N. S., DYUMAYEVA, T. N., GRIBACHEVA, A. V., NUDEL'MAN, Z. N., and GALIL-OGLY, F. A., Scientific Research Institute of Rubber Industry, Moscow [1961 locations] - "Investigation of amine vulcanisation of SKF-26 fluoroco-polymer" (Session II)

REZNIKOVSKIY, M. M., and BRODSKIY, G. I., Scientific Research Institute of Tire Industry, Moscow - "Special features of the mechanism of abrasion of high-elastic materials" (Session V)

Report to be submitted for the 4th Rubber Technology Conference, London, England, 22-25 May 1962.

34132
S/138/62/000/002/002/009
A051/A126

11.2214
15.9206

AUTHORS: Novikov, A.S.; Galil-Ogly, F.A.; Gilinskaya, N.S.

TITLE: "Wighton A" (Vayton) type fluoro-copolymer vulcanizates, containing benzoyl peroxide

PERIODICAL: Kauchuk i rezina, no. 2, 1962, 4 - 10 (MIRA 15:2)

TEXT: Data concerning the effects of mastication, mixing and vulcanization on the properties of rubber-like fluoro-copolymer vulcanizate peroxides of the "Wighton A" type, are derived. The fluoro-copolymer vulcanization with benzoyl peroxide is carried out in 2 steps: molding in the vulcanization press under pressure and thermostating in air without pressure. The vulcanizing action of the benzoyl peroxide is based on the removal of hydrogen atoms from the polymer chains, forming macro-radicals, and subsequent recombination of the latter, leading to the formation of a spatial lattice. Experiments revealed that in mastication and mixing on the rollers, a mechanical destruction of the molecular chains takes place in the "Wighton A" type fluoro-copolymer, forming polymer radicals which are subsequently deactivated from their interaction with compounds constituting part of the solution's composition, or they are recombined, forming

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(Rubber, Synthetic) (Benzoyl peroxide) (Vulcanization)

"Wighton A" (Vayton) type fluoro-copolymer ....

branched or partially laced structures. The first processes take place primarily at temperatures of from 20 - 30°C, the second at 60 - 80°C. The properties of the fluoro-copolymer vulcanizate peroxides depend on the mixing procedure on the rollers (polymer loading, roller temperature, space between the rollers, etc). The mixing conditions should be kept constant in order to form vulcanizates with reproducible properties. The vulcanization of the fluoro-copolymer with the benzoyl peroxide begins at temperatures over 80°C; thus, the molding should be carried out at temperatures not exceeding 80°C. After the first stage of vulcanization of the fluoro-copolymer with the benzoyl peroxide, the vulcanizates are characterized by a sparse spatial lattice, a low tensile strength, high residual deformation in compression. The second stage of vulcanization leads to an improvement of the mechanical properties of the vulcanization. In thermal aging of the peroxide vulcanizates, the rate of either the structuralizing or destruction processes is increased, depending on the temperature and mix filling. Articles made of the "Wighton A" type fluoro-copolymer, vulcanized with benzoyl peroxide, can be used over long periods of time at 250°C and for shorter periods at 300°C. There are 6 tables, 6 figures and 10 references: 2 Soviet-bloc and 8 non-Soviet-bloc. The references to the two most recent English language publications read as follows: J.G. Smith, Rubb. World, 140, no. 2, 263

"Wighton A" (Vayton) type fluoro-copolymer ....

(1959). E. Tufts, Rubb. Age, 84, no. 6, 463 (1959).

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

Card 3/3

24938
S/138/62/000/003/002/00[illegible]
A051/A126

11.7214

AUTHORS: Novikov, A. S., Galil-Ogly, F. A., Gilinskaya, N. S., Nudel'man, Z.N.

TITLE: Vulcanization of Wighton-type fluorocopolymers with hexamethylenediamine

PERIODICAL: Kauchuk i rezina, 1962, no. 3, 4 - 10

TEXT: Results are submitted of a study on the vulcanization processes (1st and 2nd) of the Wighton-type fluorocopolymer, using hexamethylenediamine (HMDA). Work began in 1958 and was completed in 1960. In the first vulcanization stage the formation kinetics of the vulcanization lattice in the copolymer and the quantity of bound amine were determined. Experiments showed that the Wighton-type fluorocopolymer vulcanizes with hexamethylenediamine at low temperatures (from 10°C); the degree of lacing increases with an increase in concentration of the hexamethylenediamine and temperature. During the vulcanization process with the hexamethylenediamine, a hydrogenfluoride salt is formed, indicating a splitting off of the HF from the polymer and the formation of double bonds in the chain. The HMDA salt decomposes, forming a free amine, in the presence of metal oxides, or under conditions allowing the dissociation of the hydrogen-

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X

Vulcanization of...

fluoride salt, with HF forming from the reaction medium. The latter explains the activating action of the metal oxides on the vulcanization process of using hexamethylenediamine. A reaction scheme is recommended. In the second vulcanization stage (heating in an air thermostat at 200°C), partial destruction of the fluoropolymer with the HMDA vulcanizates takes place. The resistance to accumulation of residual deformations and the stability of other mechanical properties are increased. One of the main reasons of destruction is moisture, introduced into the mixture with the ingredients and formed in the reaction: $MgO + 2HF \rightarrow MgF_2 + H_2O$. The destruction process is affected by the moisture of the surrounding medium as well as by that contained in the vulcanizate proper. The HF is found further to affect the destruction of the vulcanizate in thermostatic treatment, causing a tear of the transverse bonds of the following type: $\overset{|}{C}=N-(R)-N=\overset{|}{C}$, which, in turn, are not acid-resistant. An increase of accumulation resistance of the fluorocopolymer vulcanizates to residual deformation and a stabilization of other mechanical properties during the second stage of vulcanization is explained by the elimination of moisture and volatile products when heated in air. There are 4 figures, 4 tables, 11 references: 3 Soviet-bloc and 8 non-Soviet-bloc. The reference to one of the most recent English-language publication reads as follows:

Card 2/3

Vulcanization of...

S/138/62/000/003/002/00[illegible]
A051/A126

A. H. Moran, R. P. Kane, J. F. Smith, Ind. Eng. Chem., 51, no. 7, 831 (1959).

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

Card 3/3

X

5A996
S/190/62/004/003/016/025
B124/B101

11.2214
15.9206

AUTHORS: Novikov, A. S., Galil-Ogly, F. A., Slovokhotova, N. A., Dyumayeva, T. N.

TITLE: Structural transformations of rubber-like fluorine-containing copolymers on thermal treatment

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 3, 1962, 423-428 (MIRA 15:3)

TEXT: Structural changes taking place when the copolymer "Viton A" is molded at a pressure of 270 kg/cm^2 and 150 to 200°C in the absence of air (stage I), and successively kept in a thermostat in an air current at 150 - 300°C (stage II) have been studied. For this purpose, and -14(IKS-14) infrared spectrometer was used. No changes in the infrared spectra were established on heating up to 150°C in the mold, while, at 200°C, two medium-intensity absorption bands in the region of 1760 and 1725 cm^{-1} corresponding to the groups $R_F-\underset{\underset{CF_2}{|}}{C}-R_F$ and $R_FCF=CFR_F$ or $RCH=CF_2$, and one low-intensity band at 1625 cm^{-1} due to conjugated double bonds were ascertained.

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Structural transformations ...

When the sample was heated to 150°C in the thermostat, high-intensity band was detected in the region of 1730 cm^{-1} which is found to correspond to oscillations of double bonds of the type $R_FCF=CFR_F$ or $RCH=CF_2$, and, in addition, two weak bands appear in the region of 1580 - 1600 cm^{-1} due to conjugated double bond chains of various lengths. At 200°C, no changes in the infrared spectra nor a loss of solubility were found in the copolymer kept in the thermostat, while solubility was lowered on heating to 200 - 250°C. Numerous double bonds formed when CaO and MgO, respectively, were added to the pressurized mold at 150 - 200°C, with MgO being somewhat less effective; the number of double bonds formed increased with temperature. When films about 100 microns thick, with an addition of MgO, were heated, absorption bands appeared with a maximum in the region of 1450 cm^{-1}, the intensity of which increased with the time of heating. These bands are due to the appearance of the HF_2^- ion formed by reaction of Mg with HF liberated. The appearance of a band in the 3300 cm^{-1} region when samples containing CaO were heated proves the formation of hydroxyl groups. Thus, it can be concluded that, in the first phase, the C-F and C-H bonds are ruptured

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which leads to the formation of HF, F_2, H_2 and double bonds both in the central part and at the ends of the chain. Up to 150°C, equilibrium is maintained due to pressure which prevents the removal of gaseous products which is, however, possible at 200°C. When the sample is heated to 150°C after CaO or MgO have been added salts of the types MeF_2 and $MeHF_2$ are formed. This process is intensified by heating to 200°C. Heating in the thermostat is accompanied by a loss in solubility which proves crosslinking. On heating to 150°C in the thermostat, gases formed can be removed which is reflected by spectral data and, at the same time, double bonds are formed. This reaction is catalyzed by the presence of metal oxides in the copolymer. When heating is continued up to 200°C, crosslinking occurs so rapidly that no double-bond absorption bands were found in the copolymer heated in the thermostat. Pressure application retards crosslinking due to a decreased chain mobility. There are 4 figures, 2 tables, and 8 references: 7 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: J. F. Smith, Rubber World 142, 102, 1960.

Structural transformation ... S/190/62/004/003/016/023
B124/B101

ASSOCIATION: NII rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry). Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

SUBMITTED: March 3, 1961

Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti i Fiziko-khimicheskiy institut imeni L.Ya. Karpova

Card 4/4

NOVIKOV, A.S.; GALIL-OGLY, F.A.; SLOVOKHOTOVA, N.A.; DYAMAYEVA, T.N.; KARGIN, V.A.

Vulcanization of fluorine-containing copolymers with polyamines with the use of infrared spectroscopy. Vysokom. soed. 4 no.12:1799-1805 D '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.
(Fluorine compounds)
(Polymers) (Vulcanization)

30515

S/138/62/000/006/001/008
A051/A126

15.9205

AUTHORS: Borisov, S.N., Karlin, A.V., Chudesova, L.M., Galil-Ogly, F.A., Chebysheva, L.M.

TITLE: Properties of ethylphenylsiloxane rubbers

PERIODICAL: Kauchuk i rezina, no. 6, 1962, 3 - 6

TEXT: The relation between the methylphenylsiloxane ring content in rubbers and their optimum frost resistance was determined by producing and investigating polymers containing from 2 to 10 mol % of the methylphenylsiloxane rings. Optimum frost resistance was found in rubbers based on polymers and containing 8 mol % methylphenylsiloxane rings. The substitution of the latter with diethylsiloxane rings yields elastomers with the following characteristics: a) the ability to vulcanize with lesser quantities of benzoyl peroxide and with weak vulcanizing agents, such as dicumyl peroxide; b) a higher resistance to accumulation of residual deformations after compression; c) resistance to destruction in closed systems. A study of synthesized ethylphenylsiloxane elastomers showed that they combine the advantages of both the diethylsiloxane and methylphenylsiloxane elas-

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Properties of....

tomers. They vulcanize with a lesser quantity of benzoyl peroxide and dicumyl peroxide, as compared to the methylphenylsiloxane rubbers. They have a higher resistance to destruction in closed systems and regeneration capacity after simultaneous action of elevated temperatures and loads. The rubbers based on the ethylphenylsiloxane polymers are equal to the methylphenylsiloxane rubbers in their thermal and frost resistance, within a temperature range of -100 to +250°C. The properties of ethylphenylsiloxane rubbers are improved by substituting the У-333 (U-333) silica gel with the more active БС-280 (BS-280). There are 2 tables and 3 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva i Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (All-Union Scientific Research Institute of Synthetic Rubber im. S.V. Lebedev and the Scientific Research Institute of the Rubber Industry)

NOVIKOV, A.S.; GALIL-OGLY, F.A.; FRADKINA, F.Ye.; SUKHOTINA, T.M.; FOMINA, L.G.

Technological properties of rubber compounds based on the ethylene-propylene synthetic rubber and technical characteristics of their vulcanizates. Kauch.i rez. 21 no.7:1-5 Jl '62. (MIRA 15:7)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.
(Rubber, Synthetic)

L 13550-63 EPR/EPF(c)/EWP(j)/EWT(m)/BDS AFFTC/RPL/ASD Ps-4/Pc-4/
Pr-4 RM/BW/WW/JWD/H
ACCESSION NR: AP3000695 S/0190/63/005/005/0687/0692

AUTHOR: Lyubimov, A. N.; Novikov, A. S.; Galil-Ogly*, F. A.; Gribacheva, A. V.; Varenik, A. F.

TITLE: The application of nuclear magnetic resonance in the study of vulcanization-induced structural changes of copolymers containing fluorine

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 5, no. 5, 1963, 687-692

TOPIC TAGS: nuclear magnetic resonance, vulcanization, structural changes, fluorine-containing copolymers, hexamethylenediamine, MgO

ABSTRACT: The authors studied the effects of temperature, materials, and vulcanization processes on the shape of fluorine and hydrogen resonance lines in rubber-like fluorine-containing polymers of the Vaiton and Kel F-3700 type by the application of the nuclear magnetic resonance technique. The samples under investigation were either heated in moulds under vulcanization conditions of 270 kg/cm sup 2 at 150 to 200C, or just heated in the air at the above temperatures, as well as vulcanized materials of the Vaiton type copolymers, obtained by a 10 minute heating at 120C, with hexamethylenediamine as vulcanizing agent and MgO as receptor of hydrogen fluoride. The obtained records of the absorption spectra of nuclear resonance showed that heating as such to 150 to 200C does not cause any noticeable change in

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L 13550-63
ACCESSION NR: AP3000695

the shape of fluorine and hydrogen lines, while heating the samples under vulcanization conditions causes some change in the shape of the fluorine lines and a very marked one in the hydrogen lines in both copolymers, these changes being independent of the temperature. The effect of the amine vulcanization is still more pronounced as to the fluorine lines, while causing a radical change in the shape of the hydrogen resonance lines, these changes being independent of the concentration of hexamethylenediamine. The incorporation of MgO in the vulcanization compound causes a widening of the fluorine line without markedly affecting the hydrogen line. It is concluded that the observed changes may indicate the formation in the polymeric chains of C = C double bonds. Orig. art. has: 6 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promy*shlennosti (Scientific Research Institute of the Rubber Industry)

SUBMITTED: 16Oct61 DATE ACQ: 17Jun63 ENCL.: 00

SUB CODE: CH NO REF SOV: 006 OTHER: 000

Card 2/2

L 19608-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 ESD/APWL/ESD/
APGC(b)/ESD(ga)/ESD(t)/RPL RM/WW/MLK
ACCESSION NR: AT4049856 S/0000/64/000/000/0160/0165

AUTHOR: Novikov, A. S.; Galil-Ogly*, F. A.; Slovokhotova, N. A.; Dyunayeva, T. N.

TITLE: Investigation of the vulcanization of fluorocopolymers with Schiff bases by the method of infrared spectroscopy

SOURCE: Khimicheskiye svoystva i modifikatsiya polimerov (Chemical properties and the modification of polymers); sbornik statey. Moscow, Izd-vo Nauka, 1964, 160-165

TOPIC TAGS: fluorocopolymer, vulcanization, infrared spectroscopy, vulcanizing agent, rubber aging, Schiff base, hexafluoropropylene copolymer, vinylidene fluoride copolymer

ABSTRACT: Structural changes in a copolymer of hexafluoropropylene and vinylidene fluoride during vulcanization with Schiff bases were investigated by the method of infrared spectroscopy. The copolymer was press-vulcanized at 100-200C for 30 min. In addition, rubbers were aged in a thermostat with air circulation at 200C for 48 hrs. The nature of the structural changes was judged from changes in the infrared absorption spectra, measured with an IKS-14 instrument using NaCl and LiF prisms. The vulcanizing agent was bis-benzalhexamethylenediamine. Vulcanization at 70-120C was accompanied by a decrease in intensity of absorption at 1655 cm-1, which is characteristic for valence oscillations of the >C=N-bonds, and by an increase

Card 1/3

L 19608-65

ACCESSION NR: AT4049856

in intensity of absorption at 1705 cm^{-1}. After vulcanization, there were no absorption bands characteristic for >C=N-bonds, while absorption at 1705 cm^{-1} was much more intensive. Addition of MgO during vulcanization at 150C does not change the nature of the spectrum in the range of 1500-1800 cm^{-1}; however, at 200C, a broad intensive band was observed in the region of 1620-1640 cm^{-1}, which pertains to conjugated double bonds. The following vulcanization mechanism is suggested: 1) Partial hydrolysis of the Schiff base under the influence of moisture; 2) Reaction of hexamethylenediamine with the fluorocopolymer with the formation of double bonds in the polymer; 3) Addition of the Schiff base to the double bonds of the fluorocopolymer, which leads to the cross-linking of the polymer chains along two possible paths: (a) addition of bis-benzalhexamethylenediamine to individual double bonds in the copolymer, or (b) addition of bis-benzalhexamethylenediamine to the system of conjugated double bonds in the chain. The increased stability of rubbers vulcanized with Schiff bases, compared with hexamethylenediamine, is explained by the greater thermostability of transverse bonds of the C-N type in comparison with C=N. Orig. art. has: 3 figures, 1 table and 4 chemical equations.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-Chemical Institute)

Card 2/3

L 19608-65

ACCESSION NR: AT4049856

SUBMITTED: 16Oct62 ENCL: 00 SUB CODE: OC, MT

NO REF SOV: 002 OTHER: 005

Card 3/3

L 19708-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 WW/RM
ACCESSION NR: AP5001500 S/0138/64/000/012/0007/0012

AUTHOR: Gilinskaya, N. S.; Galil-Ogly, F. A.; Gubay, G. A.; Novikov, A. S.

TITLE: Reaction of fluorocarbon elastomers of the Kel-F and Viton types and their vulcanizates with inorganic acids

SOURCE: Kauchuk i rezina, no. 12, 1964, 7-12

TOPIC TAGS: fluorocarbon elastomer, fluorocarbon elastomer vulcanizate, Kel F, Viton, nitric acid

ABSTRACT: The effect of nitric acid on the structure and properties of elastomers of the Soviet Kel-F and Viton types and their vulcanizates has been studied. The experiments were conducted at room temperature with specimens 0.5—1.0 mm thick, both while the specimens were in the swollen state and after removal of the acid from the specimens. Changes in the structure and properties of raw elastomers treated with HNO_3 for 1—40 days were evaluated by viscosimetry, IR spectroscopy, and changes in the physicomechanical properties. It was shown that swelling of raw elastomers in nitric acid almost reversibly

Card 1/3

L 19708-65
ACCESSION NR: AP5001500

lowers their tensile strength and increases their elongation. Treatment of raw elastomers with HNO_3 for 40 days did not affect the properties and network structures of vulcanizates. Swelling of raw elastomers in HNO_3 did not give rise to polymer chain degradation or to appreciable structural changes. Changes in the structure and properties of fluorocarbon vulcanizates were determined from equilibrium swelling and changes in physicomechanical properties. The experiments were conducted with unfilled and filled vulcanizates prepared with different vulcanizers and treated with HNO_3 for 24 and 72 hr, respectively. It was shown that the highest resistance to HNO_3 is inhibited by silica-filled peroxide vulcanizates (with C-C crosslines). After removal of the acid, the physicomechanical properties of these vulcanizates are fully restored and their network density remains almost unchanged, while the strength and network density of vulcanizates prepared with other vulcanizers, such as Schiff's bases or chelate compounds, drops after treatment with and removal of HNO_3. Orig. art. has: 1 figure and 6 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

Card 2/3

L 19708-65
ACCESSION NR: AP5001500

SUBMITTED: 00 ENCL: 00 SUB CODE: MT, GC

NO REF SOV: 005 OTHER: 007 ATD PRESS: 3160

Card 3/3

L 34952-65 EWT(m)/EPF(c)/EPR/EWP(j)/T/EWP(v) Pc-4/Pr-4/Ps-4 RM/WW

ACCESSION NR: AP5008126 S/0138/65/000/003/0001/0008

AUTHOR: Galil-Ogly, F. A.; Gilinskaya, N. S.

TITLE: Fluorocarbon vulcanizates

SOURCE: Kauchuk i rezina, no. 3, 1965, 1-8

TOPIC TAGS: fluorocarbon, synthetic rubber, sealant, fluorocarbon vulcanizate

ABSTRACT: This review article, concerning fluorocarbon vulcanizates, contains 53 references, most of which are from Western sources. The following headings are included: Methods of preparation of vulcanizates from fluorocarbons; Properties of fluorocarbon vulcanizates; and Application of flurorcarbon vulcanizates. The last section stresses the importance of these products in the aviation industry, as sealing components in jet engines. Orig. art. has: 10 tables. [VS]

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 009 OTHER: 044 ATD PRESS: 3214

Card 1/1

L 54626-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP5017441 UR/0138/64/000/010/0001/0007

AUTHOR: Galil-Ogly, F. A.; Chebysheva, L. M.

TITLE: Properties and use of cured rubbers from silicone raw rubbers

SOURCE: Kauchuk i rezina, no. 10, 1964, 1-7

TOPIC TAGS: rubber

ABSTRACT: Silicone rubbers are widely used in view of their high thermal stability (up to +250-300°C) and frost resistance (down to -55 to -100°C), high electrical insulation properties, stability to atmospheric influences, exceptional water-repelling properties, and physiological inertness. They are produced by hydrolysis of dialkyldichlorosilane, followed by polycondensation of the hydrolysis products in the presence of acid or basic catalysts. The molecular weight determines the technological properties of the mixtures and strength properties of the cured rubbers; optimum: 600,000-800,000. Silicone rubbers are colorless, odorless, practically do not liberate volatile products up to +150°C, and are nontoxic. Specific gravity 0.98; vitrification point 130°C; crystallization point about -66°C. The article gives a broad description of the properties of rubbers from domestic dimethyl-

Card 1/2

L 54626-65

ACCESSION NR: AP5017441

siloxane rubber SKT and vinyl methylsiloxane rubbers SKTV and SKTV-1, since all other modifications of siloxane rubber differ from them in some single specific property. The effects of fillers, stabilizers of the crude mixtures, stabilizers of the vulcanizates, contaminants, and schems of vulcanization is discussed. The three rubbers are compared in resistance to thermal aging, frost resistance, resistance to thermal cycling, dielectric properties, inertness to chemical and physiological agents, weather resistance, and radiation stability. Uses of silicone rubbers: molded objects, such as gaskets, insulation plates, water repellent for fabrics, etc. are described. The uses of low-molecular liquid rubbers, vulcanized in the cold, are mentioned.
Orig. art. has: 2 formulas, 7 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NR REF SOV: 007 OTHER: 013 JPRS

Card 2/2

GILINSKAYA, N.S.; GALIL-OGLY, F.A.; GUBAY, G.A.; NOVIKOV, A.S.

Interaction of type Kel-F and Viton fluorine rubbers and their vulcanizates with inorganic acids. Kauch. i rez. 23 no.12:7-12 D '64. (MIRA 18:2)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

GILINSKAYA, N.S.; GALIL-OGLY, F.A.; NUDEL'MAN, Z.N.; NOVIKOV, A.S.

Vulcanization of the fluoropolymer of Fluoroelastomer 26 with Schiff bases. Kauch. i rez. 24 no.9:2-6 '65. (MIRA 18:10)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

ACC NR: AM6036881 Monograph UR/

Galil-Ogly, Faina Akimovna; Novikov, Aleksandr Sergeyevich; Rudel'man, Zinoviy Naumovich

Fluorocarbon rubbers and their vulcanizates (Ftorkauchuki i reziny na ikh osnove) Moscow, Izd-vo "Khimiya", 1966. 234 p. illus., biblio., index., tables. 4000 copies printed.

TOPIC TAGS: fluorocarbon, vulcanization, polymer

PURPOSE AND COVERAGE: The book describes the properties of fluorocarbon rubbers, formulations of rubber mixtures, processing of the rubber, and fields of their application. It discusses chemical processes in fluorocarbon rubbers at high temperatures and in the course of their vulcanization. The book is intended for scientific workers, engineers and technicians of the chemical, petroleum, automotive and defense industries. There are 72 Soviet World and 494 Western references. The references are given at the end of individual chapters.

TABLE OF CONTENTS:

Card 1/2 UDC: 678.743

ACC NR: AM6036881

Fluorine, organofluorine compounds -- 8

SUB CODE: 11,07/ SUBM DATE: 26Apr66/ ORIG REF: 076/ OTH REF: 432/

Card 2/2

GALIL-OGLY, G. A. (Moskva, D-80, ul. Vrubelya, 6, korp. 5, kv. 16);
POROSHIN, K. K. (Moskva, G-34, Kursovoy per., 4/2, kv. 15)

Tumors of the sympathetic nervous system. Vop. onk. 8 no.7: 31-38 '62. (MIRA 15:7)

1. Iz gorodskoy bol'nitsy No. 57 g. Moskvy (glav. vrach - S. B. Vol'fson) i TSentral'noy patologoanatomicheskoy laboratorii (nach. - prof. A. V. Smol'yannikov), Moskva.

(NERVOUS SYSTEM, SYMPATHETIC--TUMORS)

FISHZON-RYSS, Yu.I., kand.med.nauk; GALIL-OGLY, G.A., kand.med.nauk; POROSHIN, K.K. (Moskva)

Adrenal neuroblastomas. Klin.med. 40 no.6:71-78 Je '62. (MIRA 15:9)

1. Iz 57-y bol'nitsy Moskvy (glavnyy vrach S.B. Vol'fson).
(ADRENAL GLANDS—CANCER)

GALIL-ogly, G. A. Cand Med Sci -- (diss) "Data for description the mediocolegal characteristics of physicians' medical errors in the diagnosis and treatment of appendicitis." Mos, 1957. 16 pp 20 cm. (First Mos Order of Lenin Med Inst im I. M. Sechenov), 200 copies (KL, 24-57, 121)

GALIL-OGLY, G.A. (Moskva)

Errors in diagnosis in acute appendicitis; according to forensic medical data. Klin. med. 35 no.1:86-89 Ja '57 (MLRA 10:4)

1. Iz kafedry sudebnoy meditsiny (zav.-kafedroy-prof. V.F. Chervakov) i Moskovskogo ordena Lenina meditsinskogo instituta.
(APPENDICITIS, differ. diag.
errors in acute appendicitis)

GALIL_OGLY, G.A.; POROSHIN, K.K.

Reticulosarcomatosis with disorder of the brain and spinal cord.
Zhur. nevr. i psikh. 61 no.11:1655-1657 '61. (MIRA 15:2)

1. Patologoanatomicheskoye otdeleniye (zav. G.A.Galil-Ogly) bol'nitsy No.57 g. Moskvy (glavnyy vrach S.B.Vol'fson).
(BRAIN_TUMORS), (SPINAL CORD_TUMORS)

PORCSHIN, K.K.; GALIL-OGLY, G.A. (Moskva)

Oncocytomas. Arkh. pat., 27 no.8:43-49 '65. (MIRA 18:10)

1. TSentral'naya patologoanatomicheskaya laboratoriya (nachal'nik - kand.med.nauk A.K.Apatenko) pri TSentral'nom voyenno-meditsinskom upravlenii Ministerstva oborony SSSR i gorodskaya bol'nitsa No.57 (glavnyy vrach S.B.Vol'fson).

SEMENOVICH, N.I., kand. med. nauk; STEPANOV, N.G., kand. med. nauk; GALIL-OGLY, G.A., kand. med. nauk; POKOSHIN, K.K., kand. med. nauk

Some data on the clinical and morphological aspects of Chiari's disease. Sov. med. 28 no.8:26-31 Ag '65. (MIRA 18:9)

IALILEYEV, M.O.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

35. B. M. Borodachev (Kuibeshev): On the solution of the dynamic contact problem for a half-space under conditions of axial symmetry.

36. J. Brilla (Bratislava). Anisotropic plates with discontinuous supports.

37. B. M. Broude (Moscow): On the essential non-linearity of certain problems on column stability.

38. E. G. Buglov (Kiev), S. V. Serensen (Moscow): On the determination of safety factors under alternating random loads.

39. A. V. Burlakov (Kharkov): An experimental investigation of creep of TURBINE diaphragm models.

40. E. F. Burmistov (Saratov): On the stability of constructionally anisotropic circular ring plates.

41. St. Balan, V. Patcu, S. Rautu (Bucharest): The field of application of chromoplasticity.

42. D. R. Bainberg (Kiev): The state of stress of lamellar systems of regular configuration.

43. V. V. Bainshtok (Moscow): Thixotropic properties of lubricants as basis of their rheological characteristics.

44. G. A. Van-Fo-Fi, G. N. Savin (Kiev): Application of Mathieu functions to the investigation of shells.

45. P. M. Varvak (Kiev): Determination of stresses and deformations in massive bodies.

46. N. V. Vedeneev (Gorkii): The flow of bitumens and filled bitumens in pipes.

47. I. I. Vekua, N. I. Muskhelishvili (Tbilisi): Applications of analytic functions in the theory of elasticity.

48. L. Ya. Vlasov (Tbilisi), V. V. Pinadzhian (Erevan): Experimental investigation of the behavior of excentrically compressed short columns for long loading times.

49. G. V. Vinogradov (Moscow), A. A. Mamakov (Kazan), V. P. Pavlov (Moscow): Investigation of soft plastic bodies under combined states of stress.

50. G. V. Vinogradov, V. P. Pavlov (Moscow): Basic peculiarities of the mechanical properties of plastic lubricants.

51. A. I. Vinokur (Leningrad): Fundamentals of the linear theory of visco-elastic impact.

52. L. I. Vinokurov (Kharkov): The solution of dynamic contact problems for foundations using a simplified model.

53. B. F. Vlasov (Moscow): On the equilibrium equations of thick elastic plates.

54. K. F. Voitkovskii (Yakutsk): The creep of ice and frozen soils under combined stresses.

55. M. P. Volarovich, G. Ia. Voronkov, K. P. Kovalevskii, S. I. Mashmas (Moscow): Studies of viscoelastic properties of porous bodies (e.g. peat) by the ultrasonic pulse method.

56. M. P. Volarovich (Moscow), A. Kh. Kim (Minsk): The plane flow of a visco-plastic medium between two planes forming an acute angle.

57. M. P. Volarovich, A. M. Opokin (Moscow): Kinematics and dynamics of the flow of visco-plastic dispersed media past bodies of different shapes.

58. A. N. Volkov (Moscow): On the analysis of a short closed cylindrical shell.

59. S. D. Volkov, N. A. Klinskikh (Sverdlovsk): On the distribution of elastic constants in quasi-isotropic polycrystaline media.

60. I. I. Vorovich (Rostov-na-Donu): A statistical method in the stability theory of shells.

61. I. I. Vorovich (Rostov-na-Donu), A. S. Kosmodamianskii (Saratov): On stress concentration in a plane with an infinite number of holes.

62. A. F. Vlasmenskii (Leningrad): Foundations of the general and bearing theory of elastic beams.

63. A. S. Vialov (Moscow): The laws of deformation of ice.

64. S. S. Vialov (Moscow): The laws of motion of ice crusts and the theory of visco-plastic flow based on research in the Antarctic.

65. N. B. Galileyev (Leningrad): A method of obtaining polynomial stress and displacement functions.

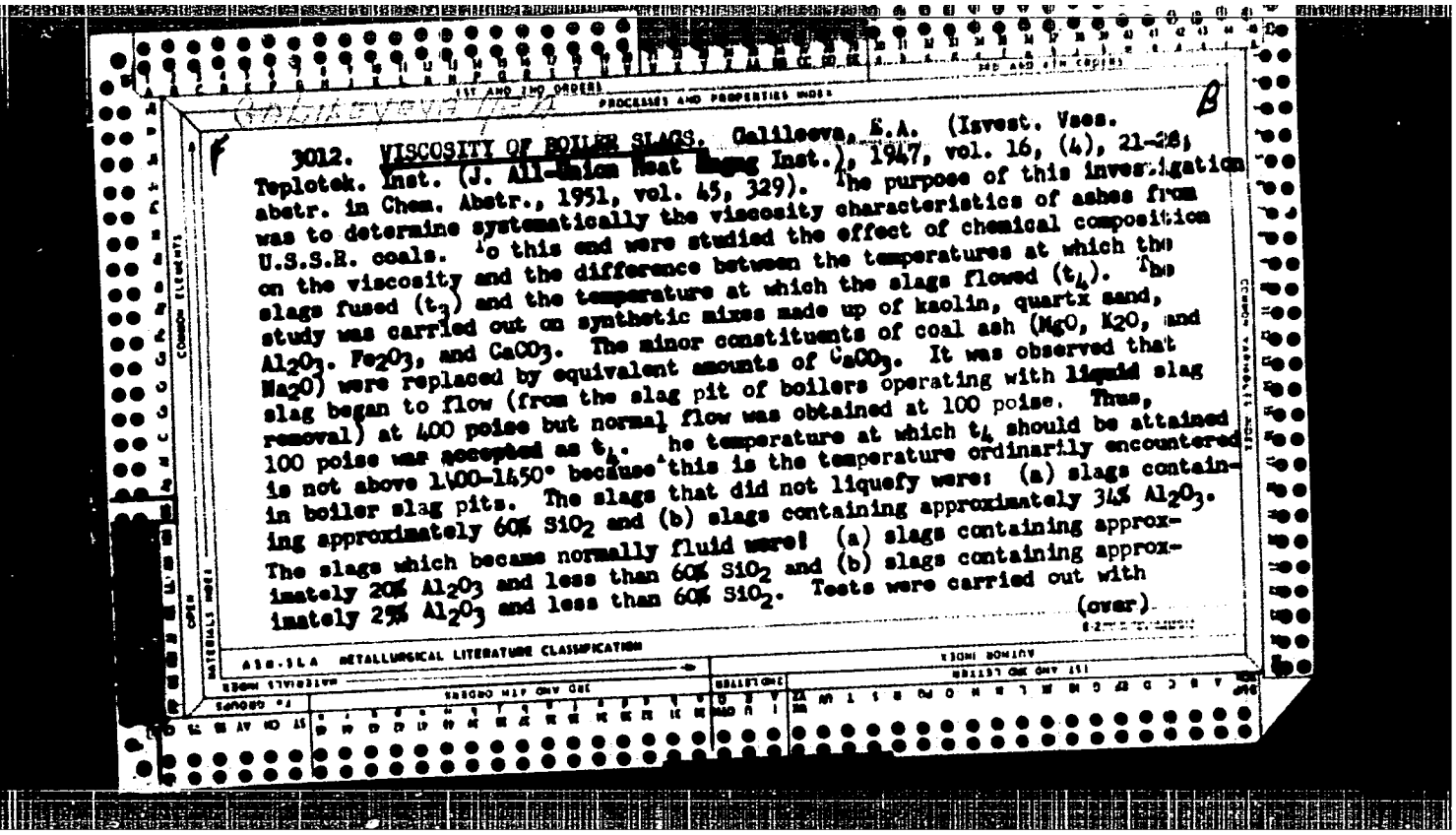
66. K. Z. Galimov (Kazan): A contribution to the theory of the finite deformations of thin shells.

67. M. F. Galin (Moscow): The propagation of elastic-plastic bending and shear waves in the axisymmetrical deformations of shells.

GALILEYEV, M.D., inzh.

Solving the plane problem of the theory of elasticity using integral algebraic functions. Sbor.LIIZHT no.164:276-285 '59. (MIRA 13:8)

(Elasticity)



3012. VISCOSITY OF BOILER SLAGS. Galileeva, E.A. (Izvest. Vses. Teplotek. Inst. (J. All-Union Heat Engng Inst.), 1947, vol. 16, (4), 21-28; abstr. in Chem. Abstr., 1951, vol. 45, 329). The purpose of this investigation was to determine systematically the viscosity characteristics of ashes from U.S.S.R. coals. To this end were studied the effect of chemical composition on the viscosity and the difference between the temperatures at which the slags fused (t_3) and the temperature at which the slags flowed (t_4). The study was carried out on synthetic mixes made up of kaolin, quartz sand, Al_2O_3, Fe_2O_3, and $CaCO_3$. The minor constituents of coal ash (MgO, K_2O, and Na_2O) were replaced by equivalent amounts of $CaCO_3$. It was observed that slag began to flow (from the slag pit of boilers operating with liquid slag removal) at 400 poise but normal flow was obtained at 100 poise. Thus, 100 poise was accepted as t_4. The temperature at which t_4 should be attained is not above 1400-1450° because this is the temperature ordinarily encountered in boiler slag pits. The slags that did not liquefy were: (a) slags containing approximately 60% SiO_2 and (b) slags containing approximately 34% Al_2O_3. The slags which became normally fluid were: (a) slags containing approximately 20% Al_2O_3 and less than 60% SiO_2 and (b) slags containing approximately 2% Al_2O_3 and less than 60% SiO_2. Tests were carried out with

(over)

actual coal ashes of a similar composition; the results were analogous. Ten types of U.S.S.R. coal were classified from the point of view of the behaviour of their ash. C.A.

GALILEYEVA, Ye.A., kandidat tekhnicheskikh nauk.

Measuring temperature with a graphite-tungsten thermocouple.
Teploenergetika 3 no.10:62-63 O '56. (MLRA 9:11)
(Thermocouples) (Temperature--Measurement)

GALILOV, S.P., starshiy nauchnyy sotrudnik

Effect of microelements on the disease resistance of potatoes.
Zashch. rast. ot vred. i bol. 7 no.3:32 Mr '62. (MIRA 15:11)

1. Azerbaydzhanskaya stantsiya zashchity rasteniy, Baku.
(Potatoes--Disease and pest resistance)
(Plants, Effect of trace elements on)

GALILOV, Z.I.

Mathematical Reviews
Vol. 14 No. 10
Nov. 1953
Mechanics

Galilov, Z. I. Solution of the general problem of the deflection of a simply supported elastic plate. Amer. Math. Soc. Translation no. 87, 16 pp. (1953).
Translated from Akad. Nauk SSSR. Prikl. Mat. Mekh. 14, 405–414 (1950); these Rev. 12, 185.

GALILOVA, B. I.

"Influence of the Salts of Heavy Metals on the Local Anesthetic Effect of Cocaine, Dicaine, and Novocaine." Thesis for degree of Cand. Medical Sci. Sub 16 May 49, First Moscow Order of Lenin Medical Inst.

Summary 82, 18 Dec 52, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

GALIMKHANOV, K. G.

"Method of Sectoral Sections in Calculations of Torsional Strength of Prismatic Bars of a Nonround Cross Section." Sub 19 Apr 51, Moscow Aviation Technological Inst

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

GALIMKHANOV, K.G.

10(0); 18(0); 25(0) PHASE I BOOK EXPLOITATION SOV/2035

Ufa. Aviatsionnyy institut

Trudy, vyp. 2. (Transactions of the Ordzhonikidze Aviation Institute, Ufa) Nr 2. Ufa, Bashkirskoye knizhnoye izd-vo, 1956. 219 p. Errata slip inserted. 1,000 copies printed.

Editorial Board: I.P. Yemelin (Resp. Ed.), A.N. Rakhmanovich, I.A. Bolotovskiy, S.I. Kulikov, I.A. Berezin, V.A. Vinogradov, and P.D. Mirko; Resp. Ed. for this number: I.A. Bolotovskiy; Ed. of Publishing House: M.A. Gurvich; Tech. Ed.: F.G. Gayfullin.

PURPOSE: The book is intended for engineers of scientific and industrial institutions.

COVERAGE: This collection is composed of a number of unrelated articles in mechanical, aeronautical (fluid dynamics), metallurgical and other branches of engineering. For further coverage see Table of Contents.

Galimkhanov, K.G. Torsion Analysis of Shafts With Single Flat Milled Recesses 45

This article gives a solution to problems of torsion in circular section shafts having single flat segmental recesses. The method applied to this solution is similar to that described by the author in Trudy Ufimskogo aviatsionnogo instituta, Nr 1, 1955. There are 2 Soviet references.

Kulikov, S.I. Distribution of Circumferential Stresses Between Splines of a Splined Joint 63

This article describes the distribution of circumferential stresses between the splines of a splined joint. Formulas for the determination of transmitted circumferential stresses of the maximum loaded pair of splines are established on the principle that clearances between stressed splines of the shaft and sleeve change according to a sinusoidal law. Data obtained can be applied in designing primary splined joints (assemblies). There are 5 Soviet references.

Mavlyutov, R.R. Efficiency of Fast-moving Belt Transmissions 75

This article considers aspects of losses and their influence on efficiency of plane belt transmission. Special attention was given to aerodynamic losses in belts and pulleys in view of the considerable effect produced by them on general efficiency of fast moving transmissions and to internal losses which have a decisive effect on the length of life of the belt. For the purposes of checking the accuracy of the obtained data experimental research was supplemented to the theoretical. The following personalities working in this field are mentioned: Ye.M. Gut'yar, N.T. Urazbayev, V.N. Belyayev, B.A. Propin. There are 8 references: 7 Soviet, and 1 German.

Vol'man, B.L. Increasing the Accuracy of Mechanical Integration and Solution of Common Differential Equations by Means of Impulse Link-rake Integrator 93

The article deals with research on mechanisms for accurate approximate integration and differentiation based on new principles of simulation (modeliy). A detailed description is given with diagrams of the integrator. Personalities mentioned include: M.L. Bykhovskiy and N.G. Bruyevich. There are 8 Soviet references.

Osipov, A.T. Influence of the Nonuniformity of the Structure and Elastic Properties of Pig Iron on the Quality of Piston Rings 111

The article discusses some important problems of piston ring technology and establishes the causes of qualitative irregularity of piston rings.

Interesov, N.Ye. Investigation of the Viscosity of Liquid Pig Iron Depending on Chemical Composition and Temperature of Heating 125

The article describes a method of obtaining experimental data on the viscosity of pure double ferrocarbon alloys and triple alloys of iron. It also discusses determination of viscosity of various pig irons, such as, Bessemer, open hearth and cast irons. Personalities mentioned include: A.I. Bachinskiy, Professor A.M. Samarin, and L.A. Shvartsman. There are 11 references: 7 Soviet and 4 German.

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SOV/124-57-8-9559

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 8, p 140 (USSR)

AUTHOR: Galimkhanov, K. G.

TITLE: Torsion of Semicircular-section Beams (Krucheniye sterzhney polukrugovogo secheniya)

PERIODICAL: Tr. Ufimsk. aviats. in-ta, 1956, Nr 2, pp 33-43

ABSTRACT: The author reproduces the well-known Saint-Venant solution for the torsion of beams having a circular-sector cross section.

K. V. Solyanik-Krassa

Card 1/1

SOV/124-57-7-8166

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 109 (USSR)

AUTHOR: Galimkhanov, K. G.

TITLE: The Torsion Design Calculation of Single-flat Shafts (Raschet odnoly-sochnykh valov na krucheniye)

PERIODICAL: Tr. Ufimsk. aviats. in-ta, 1956, Nr 2, pp 45-62

ABSTRACT: The method suggested by the author in a previous paper (RZhMekh, 1956, abstract 4626) is used for the approximate solution of the tor-sion problem for a single-flat shaft. The author is evidently unaware of the book by Ya. S. Uflyand [Bipolyarnyye koordinaty v teorii up-rugosti (Bipolar Coordinates in the Theory of Elasticity) Moscow-Leningrad, Gostekhizdat, 1950], which gives an accurate solution of the above-mentioned problem.

B. K. Prokopov

Card 1/1

137-58-6-12297

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 159 (USSR)

AUTHOR: Galimkhanov, K.G.

TITLE: Physical Fundamentals of Surface Hardening of Machine Parts, and Rational Selection of Type of Treatment (Fizicheskiye osnovy i ratsional'nyy vybor poverkhnostnoge uprochneniya detaley mashin)

PERIODICAL: V sb.: Ufimsk. gor. nauchno-tekhn. konferentsiya, posvyashch. vypolneniyu direktiv XX s"yezda KPSS po tekhn. progressu v prom-sti. Ufa, 1957, pp 62-70

ABSTRACT: A description is offered of the reasons for the need for hardening the surfaces of parts; a list of the types of surface hardening and coatings is provided. Mechanical work-hardening of surfaces increases σ_w by 25-30%. There is a brief elucidation of the effect of other types of surface treatment (galvanizing, cyaniding, nitriding, etc.) and also of combinations of various types of surface treatment.

Yu.L.

Card 1/1 1. Machine tools--Equipment 2. Metals--Hardening 3. Coatings --Applications

18(0); 25(0); 10(6) PHASE I BOOK EXPLOITATION SOV/1993

Ufa. Aviatsionnyy institut

Trudy Vyp. 3 (Transactions of the Ordzhonikidze Aviation Institute, Ufa) Bk 3. Ufa, Bashkirskoye knizhnoye izd-vo, 1957. 222 p. Errata slip inserted. 1,000 copies printed.

Resp. Ed. for this No.: I.A. Bolotovskiy; Editorial Board: I.P. Yemelin (Resp. Ed.), A.N. Rakhmanovich, I.A. Bolotovskiy, S.I. Kalikov, V.A. Vinogradov, and P.D. Mirko; Ed.: N.A. Garvich; Tech. Ed.: F.G. Gayfullin.

PURPOSE: The book is intended for engineers and scientific workers in the fields of metallurgy, technological processes, and fluid mechanics.

COVERAGE: This volume contains 14 articles dealing with metallurgy and mechanical, aeronautical, and electrical engineering problems. Individual abstracts are given in the Table of Contents.

Salikhanov, K.G. A New Method for Determining the Elastic Limit and Yield Point for Torsion of a Thin Elastic Wire 65

A new method is given for determining the technical elastic limit of an elastic wire in torsion. An approximate analytical representation of the torsion diagram in the form of a parabola is assumed. The admissible residual angle of twist corresponding to the required elastic limit is determined from the diagram parameters on the basis of the assumption that the lines of unloading are parallel. References: 8 Soviet.

Bolotovskiy, I.A. On the Problem of a Rational Choice of Gear Transmission Displacement Coefficients 75

The convenience and expediency of the solution of all problems of correction with the aid of blocking devices are described. A comparison is made of a number of existing correction systems. Suggestions are given regarding a rational choice of displacement coefficients for three correction systems which guarantee maximum contact strength, maximum bending strength, and maximum stability with regard to gripping and wear. Tables of recommended displacement coefficients are given for some frequently occurring cases of gear wheels generated by a rack-cutter type tool. References: 15 Soviet, 3 German.

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